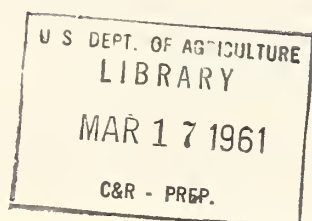


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REPORT OF THE WHEAT UTILIZATION MISSION TO:



JAPAN
INDIA
INDONESIA

Washington, D. C.
May 2, 1960

Dr. Max Myers
Chairman
Wheat Utilization Committee
Washington, D. C.

Dear Dr. Myers:

I have pleasure in transmitting herewith the Report of the Wheat Utilization Mission.

The Mission assembled in Washington on January 18th, and in accordance with its terms of reference, subsequently visited Japan, India and Indonesia. In the conduct of this study assistance was received from officials of the member countries of the Wheat Utilization Committee both in Washington and in the other countries visited; from government officials of the study countries concerned; from officials of the Food and Agriculture Organization, and from many private business and professional people interested in the Food for Peace ideals. We wish to record our grateful appreciation to each for greatly facilitating the work of the Mission.

It is the earnest wish of the members of the Mission that the results of our study may prove of value in the achievement of those purposes for which the Committee was established.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "L. B. Pett", written in a cursive style.

L. B. Pett
Chairman

FOREWORD

The Wheat Utilization Committee, at its third meeting held in July 1960 received the report of a technical fact finding Mission sent earlier in the year to Japan, India, and Indonesia and commended the Mission for its valuable contribution. The Committee had arranged for the Mission to explore the possibilities of increasing the use of wheat in India and Indonesia.

In authorizing publication of the report at this time the Wheat Utilization Committee takes account of the wide public interest expressed in the Mission and in the recent UN General Assembly and FAO Council resolutions on the provision of food surpluses to food-deficient peoples through the United Nations' system. The document has been prepared by the Mission as an expression of its own experience. As member governments are currently considering the report, including its conclusions and recommendations, it should not be regarded as representing the views or opinions of the respective governments.

The Committee points out that all considerations pertaining to capital, equipment or financing are beyond the terms of reference of the Wheat Utilization Committee.

January 1961

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REPORT OF THE WHEAT UTILIZATION MISSION TO JAPAN, INDIA, AND INDONESIA

PART I

GENERAL

The Origin and Purpose of the Mission

1. In January 1959, the President of the United States proposed in his Farm Message to Congress that steps be taken

“to explore anew with other surplus-producing nations all practical means of utilizing the various agricultural surpluses of each in the interest of reinforcing peace and the well-being of friendly peoples throughout the world--in short, using food for peace.”

2. Consequent upon this proposal a “Food for Peace” Conference was convened in Washington in May 1959 with representation from the five major wheat exporting nations--Argentina, Australia, Canada, France and the United States of America. The Director-General of the Food and Agriculture Organization of the United Nations participated as an adviser-observer.

3. The conference established the Wheat Utilization Committee--comprised of officials of the participating governments and with adviser-observer representation from F.A.O. The Committee was charged with responsibility for evolving programs for increased utilization of available wheat supplies within the general “Food for Peace” context. (See Appendix I.)

4. As an initial project, the Committee proposed to the member governments that a fact-finding mission be established to investigate the potential for increased wheat utilization in two specific countries--India and Indonesia--and to make recommendations under three broad terms of reference:

- (a) The possibilities of increasing the use of wheat to improve the nutritional level of the population of the countries specified;
- (b) the extent to which wheat can be utilized in furthering the economic development programs of the specified countries; and
- (c) the extent to which promotional and market development projects might increase, over time, the commercial outlets for wheat in these countries.

The Mission's terms of reference are reproduced in Appendix II.

5. The Committee further proposed that before visiting these countries the Mission should make first hand observations in Japan of the wheat market development work there.

6. The Governments of Australia, Canada and the United States nominated representatives on the Mission, and an adviser-observer member was supplied by the Food

and Agriculture Organization. In India and Indonesia a local representative from the Embassy of France served on the Mission. Approval was obtained for the Mission to conduct its study in each of the countries to be visited, and local committees consisting of embassy personnel from the member countries of the Wheat Utilization Committee and the F.A.O. were set up to organize programs and itineraries. Names of the members of the Mission and local committees are listed in Appendices III and IV respectively.

7. The Mission assembled in Washington on January 18, 1960, and devoted a ten-day period to detailed discussions and study related to the food problem in the countries to be visited, programs through which wheat had been moved into consumption on concessional terms, and economic development projects financed through commodity assistance on a noncommercial basis.

Interpretation of Terms of Reference

8. In giving consideration to the terms of reference governing its activities, the Mission was cognizant of the background against which the Wheat Utilization Committee was established. Accordingly, the study has been conducted within the general framework of the broad concepts of the "Food for Peace" proposal, taking into account the overall food requirements for a satisfactory standard of nutrition rather than limiting study to the relatively narrow field of cereal utilization. The basic concern has been with the food needs for better balanced diets at desirable calorie levels, with appropriate emphasis upon quality as well as quantity of the various constituents, including animal and vegetable proteins. Within this context the role of wheat has been appraised, at the same time giving recognition to those social and economic factors which influence wheat utilization in the study areas.

9. The Mission has endeavored, using information obtained from a wide variety of sources, to analyze the application of commodity assistance to economic development and appraise the potential for increased wheat utilization, both in the short run, and in terms of the long range development of commercial markets.

10. In carrying out its fact-finding assignment and making its analyses, the Mission has continuously borne in mind the Principles and Guiding Lines on Agricultural Surplus Disposal as developed and adopted in the Food & Agriculture Organization of the United Nations.

11. The Mission has attempted to assess the contribution of commodity assistance to economic development in terms of the needs of a country's economy as a whole. Too much concentration on individual projects can result in a lack of balance in the overall development program and thereby limit the effectiveness of commodity aid. Economic progress is likely to be greater when it embraces balanced development of all segments in an economy than if it results from emphasis on particular segments or particular projects. Accordingly, the Mission has based its analysis upon consideration of comprehensive programs rather than on a specific project approach.

12. The Mission's terms of reference call for full investigation of "food habits in relation to the kind of food consumed, method of preparation, household facilities for cooking or baking . . .". It was concluded that in the countries under study where there are extremely wide variations in food habits from area to area, and indeed from district to district, and between religious and cultural groups, that a detailed study of this

type was not possible in the time available to the Mission. It has been necessary, therefore, to appraise nutritional needs in terms of the population as a whole rather than in terms of income groups or social categories.

Itinerary

13. The Mission's itinerary is shown in Appendix V.

Background Study in Japan

14. The purpose of the Mission's visit to Japan (February 1 to 12) was to obtain first hand background information on experience in market development programs for wheat and methods of utilizing surplus commodities to aid in economic development.

15. The Mission had detailed discussions with officials of the Ministries of Agriculture, Education and Health and Welfare, the Food Agency, the Nutrition, School Lunch, and Food Life Improvement Associations, and representatives of the import trade, commercial flour millers, bakers, noodle manufacturers and others. The Mission observed the operation of a demonstration bus for food preparation and nutritional education; visited industrial feeding cafeterias; examined facilities for the preparation and serving of school lunches. Inspection tours were made of flour mills, bakeries, a bakery research and training institute, a bakery equipment manufacturing plant, and a promotional campaign involving the manufacture, preparation and serving of wheat noodles. The Mission also observed facilities financed in part with funds derived from the sale of surplus agricultural commodity imports, such as the Aichi irrigation project, Nagoya municipal slaughter house, and fruit and vegetable central market. Discussions were held with officials regarding the financing and operation of such projects.

16. The Mission found that the objectives of wheat promotional programs were being generally achieved, although many of the conditions which originally provided the impetus for the programs have changed considerably from earlier years. The Japanese economy is developing rapidly but the per capita consumption of wheat products has tended to stabilize. The greatest increase in demand for wheat occurred in the late forties and early fifties when the supply of rice was short and its price high. At that time the government adopted a policy to promote wheat use as a means of improving nutrition and effecting a saving in import food costs. The Japanese Government has continued to control food imports, and the price at which wheat is made available to processors. The Government sales price is sufficiently high to yield a substantial return over cost, and the income is utilized to subsidize domestic rice production. Under this stimulus the country is approaching self-sufficiency in rice production, and plentiful supplies are available to consumers. The consumer price relationship between rice and wheat is now such as to interfere with the effectiveness of wheat promotional programs although wheat is firmly established in Japanese food habits. The health, welfare, nutrition, and education forces in the country continue to emphasize the need for the variety in the diet that results from increased consumption of wheat products. The interest in a healthier, stronger people seems to provide the main incentive for promoting wheat products although considerable effect is gained from the desire of industrial and office workers for foods quick and easy to prepare, especially for breakfast and lunch.

17. The background obtained by the Mission in Japan has been useful in making analyses of the widely varying conditions in different areas of India and Indonesia. However, Japanese experiences are not generally applicable in these countries without modification.

Reference to Tour in India

18. The Mission began its extensive Indian tour on February 14 and for the ensuing four weeks observed and compiled information on aspects of the Indian economy and way of life relevant to the study. Time did not permit investigation in all areas of the country, but it is believed a representative cross-section of conditions and food habits was obtained through visits to Calcutta, Delhi, Hapur, Bombay, Aurangabad, Cochin, Trivandrum, Mysore, Hyderabad, and Madras, as well as extensive travel through rural areas. The itinerary took the Mission into all the Central Government Food Regions of India.

19. The Mission had lengthy discussions with Central and State Government officials concerned with food and agriculture, health and nutrition, finance and economic development; with workers in the fields of production, marketing, extension, public health and sanitation; and with millers, port authorities, private traders, and warehousemen. Grain handling and processing facilities were inspected in each area. The Mission's observations and analyses relating to India form the major portion of this report.

Observations in Indonesia

20. In visiting Indonesia it was the Mission's hope that experience gained in Japan and India might provide guidance for measures to utilize more wheat in these islands. Success in such an effort would be particularly advantageous since Indonesia is rich in resources and should eventually be able to purchase from other countries the goods and services desired. Despite the fact that the Indonesians are predominately rice eaters, Indian and Japanese experiences in using wheat during periods of scarcity of other foods and for increasing calorie and protein levels in the diets have demonstrated the feasibility of introducing wheat and wheat products as supplementary foods in new areas.

21. While the Mission's firsthand observations were limited to the more densely populated islands of Java and Bali, it was possible to obtain indications of food production and distribution problems in the other islands through meetings with Indonesians and others in Djakarta. As the discussions and observations progressed, it became apparent that efforts to expand utilization of wheat at this time would be premature.

22. Indonesia is one of the few countries in the world that does not produce wheat. Attempts have been made to grow wheat near Bandung but were not successful. Nevertheless, Indonesia has a history of using small quantities of wheat flour, but the amount has decreased since the departure of the Dutch and more recently of some Chinese, the major wheat consuming segments of the population. No flour mills have been established in the islands. The relatively small bakeries and other users of flour are scattered throughout a number of cities, and their products are regarded generally as luxury items.

23. The availability of wheat flour in the islands has also been reduced to some extent by a failure to phase import procurement evenly throughout the year. This has been particularly true of flour procured on concessional terms. The tropical climate and the problems of ocean and inland transportation accentuate the difficulties of storing and distributing food supplies.

24. The Mission feels that the circumstances which made its visit to Indonesia less productive than was originally hoped are transitory in nature. While Indonesia has decided to pursue a policy of self-sufficiency in rice production and may well achieve her goal, there are formidable problems of population concentration and population growth which must be met in the interim. However, as manufacturing, mining, rubber production, and oil exploration expand, the demand may well increase also for wheat and other foods. The fact that Indonesia does not today appear to represent a fruitful area for much market development work does not mean that this need continue to be so over the long run. Similarly, the present limited possibility for the orderly development of demand for wheat does not mean that some concessional sales of flour or other commodities may not prove appropriate from time to time, with due regard for commercial trade. Judgment should be made on an ad hoc basis by representatives of interested countries.

PART II

INDIA

Background

25. India today occupies an unique position in the unfolding chapter of history, exemplifying as she does the struggle of newly independent countries for economic stature and political authority in the world community. She is a nation of vast resources, both natural and human, with a deep pride in the culture and traditions of the past, and a consuming faith in her future destiny. Geographically she is on the perimeter of both the spheres of influence of the democratic and communistic ideologies which have divided modern civilization into two power blocs, and the direction of her political future is of vital concern to both groups.

26. India's problem is one of development, in almost every segment of modern living. The focal point of the problem is population, already very large, and increasing rapidly in number. The latest available estimates place the population, on March 1, 1959 at 415 million. By 1966 it is expected to reach 480 million—an increase of 65 million over a seven year period, or nearly 10 million per year. This alone constitutes a major challenge, to provide food, shelter and employment for an additional 10 million persons per year, but the problem goes far beyond that of population growth in a country where food is already scarce, where incomes are alarmingly low, and where unemployment and under-employment is a constant threat to the nation's economic health.

27. India's population is still largely rural, approximately 78 percent, in spite of a gradual shift to urban areas in recent years as industrial development has proceeded. From the standpoint of the food economy, this population shift will accentuate problems of supply and distribution as more and more people become dependent upon marketed agricultural production rather than simply producing for their own needs.

28. Coupled with and an integral part of the population problem is a very low level of income per capita, provisionally estimated at 290 rupees for the year 1959. This represents \$61.00 U.S. per person per year, among the lowest in the world today.

29. In circumstances of high population density and lower per capita income, it is not surprising that levels of nutrition are below a desirable standard. The present diet is recognized officially as being deficient in terms of total calorie intake as well as unbalanced in terms of calorie source.

30. The basic food problem in India is that of increasing indigenous production—of meeting from internal sources the food needs of a nation with limited external purchasing power. The problem is a critical one in view of the population increase, the present low level of consumption, and the growing demand arising from progressive industrialization and urbanization. Before export earnings from new investment begin to accrue, the demand for food will be accentuated as industrial development takes place and incomes rise.

31. The food problem in India is further affected by the diversity of religious and social customs which exist throughout the nation. Food habits are markedly regional,

corresponding closely with the traditional patterns of agricultural production. Broadly speaking, the basic constituent of the diet is wheat in the northern States, wheat and millet in the central and west-central States, and rice in the south and northeast. There are many food taboos—firmly held convictions that certain foods are not compatible with good health or with religious codes—and the taboos also vary from area to area. A relatively large segment of the population is vegetarian—some by religious persuasion, most by economic necessity—and eats little or no red meat, fish, fowl or eggs.

32. The state of agriculture in India is poor. Because of backward farming methods and failure to replenish the soil, crop yields are among the lowest in the world. The unreliable nature of the rainfall and the fluctuations in prices for farm produce add to the difficulties of the farmers. Nevertheless, under the stimulus of the First and Second Five Year Plans, there were appreciably greater percentage increases in agricultural output than in population.

33. India is covered by a fairly extensive network of railways, and there has been considerable improvement in the availability of rolling stock in recent years. The system is complicated, however, by the variations in rail gauge throughout the country—three in number, broad, metre and narrow. The necessity of transferring commodities from one to the other is time consuming and costly. Many rural communities are not serviced by rail, and lorry transport is not generally well developed, is expensive and poorly serviced. The system of roads, particularly market roads from rural villages, requires extensive expansion. The bullock-cart is still the major vehicle of transport in many areas, although in individual regions, particularly Kerala State, water transport is both extensive and low cost.

34. The underdevelopment of the transport system leads to distribution problems in food as well as in other commodities. Scarcities develop in individual areas because of the lack of transportation, even though supplies may be adequate on a national basis. Some communities are completely isolated during the monsoon season.

35. The heterogeneity of the population is another feature of the Indian economy which affects communication. There are 14 officially recognized languages, and several hundred dialects. Literacy is low. The latest statistics (1951) indicate that only 25 percent of the men and 8 percent of the women were literate, although some improvement is taking place. The written word is not, therefore, an effective means of publicity in many areas. The use of radio is still relatively limited, and television is unknown. The dissemination of information and any program of nutrition education must, therefore, be on a regional basis, and on a direct contact approach.

36. These are the background realities of the Indian economy to which the Mission gave consideration in appraising the role of wheat as a form of commodity assistance dedicated to the dual role of improvement in nutrition and economic development.

Nutritional Levels and Targets

37. The nutritional problem in India has been described to the Mission by various experts in the country as that of providing enough food to keep pace with population growth and of increasing the amount and kinds of proteins available, especially to certain vulnerable groups, for example, pregnant women, preschool children and the aged and infirm. To these needs should be added the realization that caloric intake can influence the work output, a fact with clear relationship to the increasing economic growth of India.

38. It is appropriate to mention a few familiar nutritional ideas that seem to have special importance in India. Good nutrition is not a matter of eating particular quantities of specified foods, but rather of supplying the body with its requirements for food energy (calories) and for various chemical substances found in foods, including proteins, vitamins and minerals. About 50 such food substances are known to be required and the amounts needed by a person vary according to his size, activity, state of health and other factors. There is, therefore, no single amount that truly represents requirements even though it is customary to use such figures for statistical convenience.

39. Under these conditions the safest procedure to get the best possible nutrition in any given circumstance is to eat a variety of foods which, particularly, will permit the best results to be obtained from the proteins available. Health authorities in India emphasize the extent of protein malnutrition, especially in younger age groups, even though other nutritional problems are recognized.

40. Recent knowledge of vegetable proteins has led to demonstrations of the nutritional improvement possible in a high cereal diet by the addition of suitable mixtures of pulses and other vegetable proteins.* Such mixtures may even be made as satisfactory as animal proteins even though the proteins of milk, eggs, fish and meat generally support growth better than vegetable proteins. The improvement of protein quality in cereal diets by adding and varying vegetable proteins has great agricultural and economic importance since it takes several times as much land to produce animal proteins as is required to produce an equivalent amount of vegetable proteins.

41. In the light of this knowledge it is especially important to maintain or even to improve the balance between animal proteins, pulse proteins and cereal proteins rather than being concerned only about the total amount of cereal in the diet. The cheapest and easiest way to improve the calorie level of a diet remains the provision of additional starchy foods. However, when non-cereal foods such as cassava, sago, potato or sugar form a large part of the diet, even more attention to proteins is needed because these contain no significant protein.

42. Table 1 gives the quantities of foods available on the average in India, per person per day, with their approximate values in calories and in protein, the two prime nutritional considerations.

43. Food availability in India at present averages 2050 calories per person per day. Cereals provide 1340 or 65 percent of these calories. This percentage is the same as in Japan but is higher than in countries enjoying higher per capita levels of income.

44. Dietary surveys conducted under the Indian Council for Medical Research** in India have shown wide variations in the use of cereals by different families and in different regions. A median of 16 ounces per person per day was found with a range of 5 ounces to 30 ounces. Twenty-five percent of the people surveyed consumed less than the average level of 2000 calories per day. These observations emphasize that an average of 2000 calories means that some people were at higher levels, such as 3000 calories daily, while others only get 1000 or 1500 calories.

*FAO Nutritional Studies No. 16, Protein Requirements, Rome, 1957.

**I.C.M.R. Special Reports numbers 20 and 25, 1953.

Table 1.—Food availability levels per person per day, 1950-51, 1958-59, and those projected 1965-66

Food groups	1950-51			1958-59			1965-66		
	Ozs.	Cals.	Prot., gms.	Ozs.	Cals.	Prot., gms.	Ozs.	Cals.	Prot., gms.
Cereals	11.2	1120	26.9	13.4	1340	32.2	15.0	1500	36.0
Pulses	1.6	152	9.1	2.5	237	14.3	3.0	286	17.1
Vegetables	1.4	9	0.8	2.2	14	1.3	3.4	21	2.0
Ghee & Oils	0.3	97	1.4	0.4	108	1.8	0.5	130	2.3
Milk & Milk products . .	4.1	133	4.1	3.9	127	3.9	5.2	170	5.2
Meat & fish, etc.	0.3	19	1.7	0.4	25	2.2	0.5	28	2.8
Fruits & nuts	1.6	29	3.7	1.7	31	3.9	1.9	34	4.3
Gur & sugar	1.3	141	0.3	1.5	168	0.3	1.7	181	0.3
Total	21.8	1700	48.0	26.0	2050	59.9	31.2	2350	70.0

Source: i) For 1950-51 Food Situation in India 1939 to 1953.
ii) For 1958-59 & 1965-66 Ministry of Food and Agriculture.

Note: Indian statistics usually state food availability in amounts per adult unit but in Western countries such figures are more familiar when given per person per day as used here.

45. It is generally recognized that an availability figure, whether it is 2000 or 3000 calories per person, means that actual consumption is at a lower level. There is no fixed figure expressing this difference but the reduction is probably 10 to 20 percent.

46. Both these points (the variations from an average, and the actual consumption tending to be less than the availability statistics) are especially important in a country like India where total food availability is very low. More calories are needed.

47. The diet is also poor in quality as measured in terms of protein. Table 1 shows a current availability of protein averaging 60 grams per person per day, of which 6.1 grams or 10 percent come from animal sources, which is rather low, and one-half comes from cereals, which is rather high.

48. Nutritional improvement in India is, therefore, largely dependent on:

- (a) increased calories per person,
- (b) increased protein, and
- (c) the quality of protein.

49. By the end of the Third Five Year Plan* it is proposed to have foods available to provide 2350 calories per person per day and 70 grams of protein. Cereals would provide 1500 or 64 percent of these calories. Of the protein, about one-half would still come from cereals and about 12 percent from animal sources. Cereals would increase

*The Third Five Year Plan will cover the period April 1, 1961, through March 31, 1966. All Plan targets must be considered tentative until approved by the Indian Parliament.

from 13.4 ounces to 15 ounces per person per day, pulses from 2.5 to 3.0, and milk from 3.9 to 5.2. The Mission believes that in India an increase in cereals is the only practical way of quickly improving the supply of calories.

50. The target takes care of the expected population increase, and makes available more actual food (300 calories) per person. The extra calories projected would represent a nutritional improvement in the first of the three mentioned aspects of better nutrition. The second aspect, namely, total protein, would also be improved if the target is achieved. The third, involving quality of protein and the ratio of protein to cereal calories, is only maintained or very slightly improved as shown by the proposed increase in protein from pulses and milk (about 13 percent) exceeding by a small amount the proposed increase in total protein (11 percent). The usual errors in food availability figures make this difference negligible.

51. The target level of 15 ounces of cereals per person per day presents no serious nutritional difficulty provided that the availability of additional proteins from other vegetable and from animal sources is actually achieved. In the absence of adequate supplies of other foods, 15 ounces of cereals, plus 3 ounces of pulses is a needed improvement over the present total of approximately 16 ounces. Even more emphasis on pulses and milk would make certain the maintenance of the balance needed in the diet and might even result in improvement in this important area of protein need.

52. Educational measures that would impart to vulnerable groups the knowledge needed to balance their diet would contribute to further improvement in nutrition, especially if accompanied by distributive measures giving them access to a special share of protein foods.

53. Thus it can be said that achievement of the food availability targets of the Third Plan would:

- (a) make an inadequate dietary pattern slightly better in quantity and quality;
- (b) strengthen over the course of time the ability of the average Indian to work and resist disease;
- (c) provide a firmer base from which to take further steps to improve Indian nutrition in future years.

The Food Deficit

54. The extremely low food availability level in India presents the government with a two-fold problem:

- (a) to increase the production of all cereals to take care of an expanded population and to provide some improvement in total caloric intake;
- (b) to increase the production of other foodstuffs—particularly pulses, milk, and milk products, fish, eggs and meat, in order to provide a better nutritional balance in the diet.

55. Requirements for grains can be expected to rise steadily with growth of population and with improved income levels. On the basis of the expected population in 1965-66, and an intake of 15 ounces of cereals and 3 ounces of pulses per person per day, a total food-grain production of slightly over 100 million tons will be required, in contrast to current production of about 73 million tons.

56. It is the policy of the Indian Government to attain self-sufficiency in food, particularly in food-grains, by the end of the Third Plan. This objective has been pursued with vigor in the development programs for the agricultural and related sectors in that Plan.

57. Table 2 compares the projected production of cereals and pulses for the years 1958-59 through 1965-66 with the total requirements based on expected population growth, and a rate of consumption equivalent to that in effect at the present time, approximately 16 ounces per person per day.

58. Calculations in Table 2 indicate that even if all of the production targets envisaged in the Third Plan are realized, the current level of consumption cannot be maintained before 1963-64 in the absence of food imports.

59. It is inherent in the Plan, however, that not only will the current level of consumption be maintained in the face of increasing population, but that there will also be a gradual improvement in the caloric level obtained through increased consumption of cereals and pulses. If adequate supplies are available, this nutritional improvement will take place as a result of increased demand, particularly for rice and wheat, brought about by higher incomes generated by industrialization and urbanization. Unless this demand can be met, the prospect of inflationary pressure on food prices will be very real. Table 3 sets out the annual food deficit which will result from a gradual increase in per capita consumption during the period of the Third Plan.

Table 2.—Requirements of cereals and pulses at constant consumption levels, 1958-59 to 1965-66

Year	Projected production ¹	Availability ²	Projected population	Requirements ³	Deficit
	Million tons ⁴	Million tons ⁴	Million	Million tons ⁴	Million tons ⁴
1958-59	73.5 (actual)	64.3	415	67.6	3.3
1959-60	73.0	63.9	422.7	68.9	5.0
1960-61	75.0	65.6	430.9	70.2	4.6
1961-62	79.0	69.1	439.6	71.6	2.5
1962-63	83.0	72.6	448.8	73.1	.5
1963-64	88.0	77.0	458.5	74.7	(2.3)
1964-65	93.0	81.4	468.8	76.4	(5.0)
1965-66	100.0	87.5	479.6	78.1	(9.4)

¹ Ministry of Food and Agriculture.

² Production less 12 1/2 percent for feed seed and wastage.

³ On the basis of 16 ounces per person per day.

⁴ Long tons of 2240 pounds.

Table 3.—Requirements of cereals and pulses at increasing consumption levels, 1958-59 to 1965-66

Year	Consumption Rate ¹	Requirement	Projected Availability	Deficit
	Ounces	Million tons ²	Million tons ²	Million tons ²
1958-59	16	67.6	64.3	3.3
1959-60	16	68.9	63.9	5.0
1960-61	16	70.2	65.6	4.6
1961-62	16.5	73.8	69.1	4.7
1962-63	17.0	77.7	72.6	5.1
1963-64	17.5	81.7	77.0	4.7
1964-65	18.0	85.9	81.4	4.5
1965-66	18.0	87.9	87.5	0.4

¹ Ounces per person per day.

² Long tons of 2,240 pounds.

60. Table 3 indicates that there will be a significant short-fall in the production of cereals and pulses, relative to the projected requirements, up until the final year of the Third Plan. It must be emphasized, however, that the above projections represent, in actual fact, the minimum deficit in availability of these food-grains which is likely to occur. The projections involve two major assumptions:

- (a) that the investment in agriculture as proposed for the Third Plan will be made and the corresponding production increases achieved;
- (b) that major crop reverses as a result of unfavorable climatic factors will not be suffered.

Neither of these assumptions is completely valid.

Investment Assumption

61. The detailed program for the Third Plan has not yet been finalized, but the investment target for agriculture has already been discounted in the preliminary review of objectives by the Planning Commission because of a lack of overall resources. The exact level of investment to be agreed to for the agricultural sector may not be known for some time, and it is not possible at this stage to do more than state that it appears highly probable that the target of production for cereals and pulses will have to be cut back from the figure of 100 million tons originally proposed.

62. Any effort to maintain the investment in agriculture at the expense of other sectors would aggravate existing economic problems. It might be suggested that heavy cuts be made in the investment for nonagricultural sectors in order to permit the proposed investment for food production. Such a course would, however, have serious implications for industrial output and job creation, and for the rate of growth of the Indian economy as a whole.

63. If investment under the Third Plan has to be curtailed generally, the result is likely to be a relatively greater decrease in food production than in demand for food.

Incomes, and consequently demand for food, would increase at a somewhat slower rate than suggested in Table 3. The reduction in requirements, however, would be less than the effect on supply, since agricultural production tends to be sensitive to cut-backs in the rate of capital investment. Serious curtailment in the proposed Plan investment would result, therefore, in greater deficits in the availability of cereals and pulses than those projected in the table.

Production Assumption

64. There is justification also for a degree of pessimism in regard to production targets, even assuming the full recommended investment in agriculture. The target of 100 million tons planned for 1965-66 compares with a record production of 73.5 million tons in 1958-59 and an anticipated 75 million tons in 1960-61, the last year of the Second Plan. A rise to 100 million tons requires a rate of increase in output well above that attained under either of the earlier Plans. Table 4 shows the actual level production of cereals and pulses over the period 1949-50 and 1958-59.

Table 4.—Production of cereals and pulses; All India, 1949-50 to 1958-59¹

Year	Rice ⁴	Wheat	Other cereals	Total cereals	Total pulses	Total foodgrains
	Million tons	Million tons	Million tons	Million tons	Million tons	Million tons
1949-50 ²	23.8	6.6	18.0	48.4	9.5	57.9
1950-51	21.0	6.6	16.1	43.7	8.7	52.4
1951-52	21.5	6.2	16.6	44.3	8.6	52.9
1952-53	23.1	7.4	19.0	49.5	9.3	58.8
1953-54	28.3	7.9	22.1	58.3	10.6	68.9
1954-55	25.1	8.8	22.2	56.1	11.0	67.1
1955-56 ³	26.9	8.6	19.0	54.5	10.8	65.3
1956-57	28.1	9.1	20.1	57.3	11.4	68.7
1957-58	24.9	7.7	20.4	53.0	9.5	62.5
1958-59	29.7	9.7	21.9	61.3	12.2	73.5

¹ Production figures relate to agricultural year, July-June and are adjusted for changes in statistical coverage, methods, etc.

² Base year of first Five Year Plan, for which unadjusted total of 54 m. tons used.

³ Base year of Second Five Year Plan, for which unadjusted total of 65 million tons used.

⁴ Production of rice in terms of cleaned rice.

Source: Ministry of Food and Agriculture.

65. In the First Plan period (1951-52 - 1955-56) the annual percentage rate of increase of food grain production was planned at 3.8 percent and reached slightly more; under the Second Plan, the increment has been running at about 2.9 percent. An increase from 75 million to 100 million tons of food grains in five years would require an average increase of 5.9 percent per annum. This is a rate of increase that would be equivalent to that experienced by the USA during its remarkable expansion of grain production over the years 1953 to 1959 when the average rate of increase in output of grains approximated 6 percent.

66. Moreover, Indian agriculture is subject to considerable variation in climatic conditions, leading to wide fluctuations in production. Production variations around the average have been as great as 10 percent. Both drought and flooding are hazards. This is exemplified in the accompanying Figure 1.

67. Since India has virtually no carryover stocks, production short-falls will require additional import supplies if the projected consumption levels are to be achieved. Import levels somewhat above the deficits indicated in Table 3 must be assumed unless unusually favorable climatic conditions produce bumper crops.

68. Considering all factors, it is probable that imports in the range of 4 to 5 million tons annually will be required to keep pace with population increase and at the same time provide some improvement in nutritional levels. The establishment of any reserve stocks to meet production deficiencies in individual areas, and to provide adequate price-stabilization control, would have to be over and above these quantities.

Agricultural Considerations

69. The extent of the food deficit in India during the period of the Third Plan will depend largely on the degree of success achieved in the agricultural development program.

70. There is no doubt that considerable scope exists in India for increased production of cereals, pulses and other foodstuffs. The cultivatable land per capita is close to one acre, approximately the same as in France. Crop yields in India are among the lowest in the world as a result of centuries of soil impoverishment and poor cultural practices. The production potential that can be developed by the application of modern knowledge and technique is therefore quite high. The importance of efforts to increase yields is already recognized; the Second Five Year Plan stated:

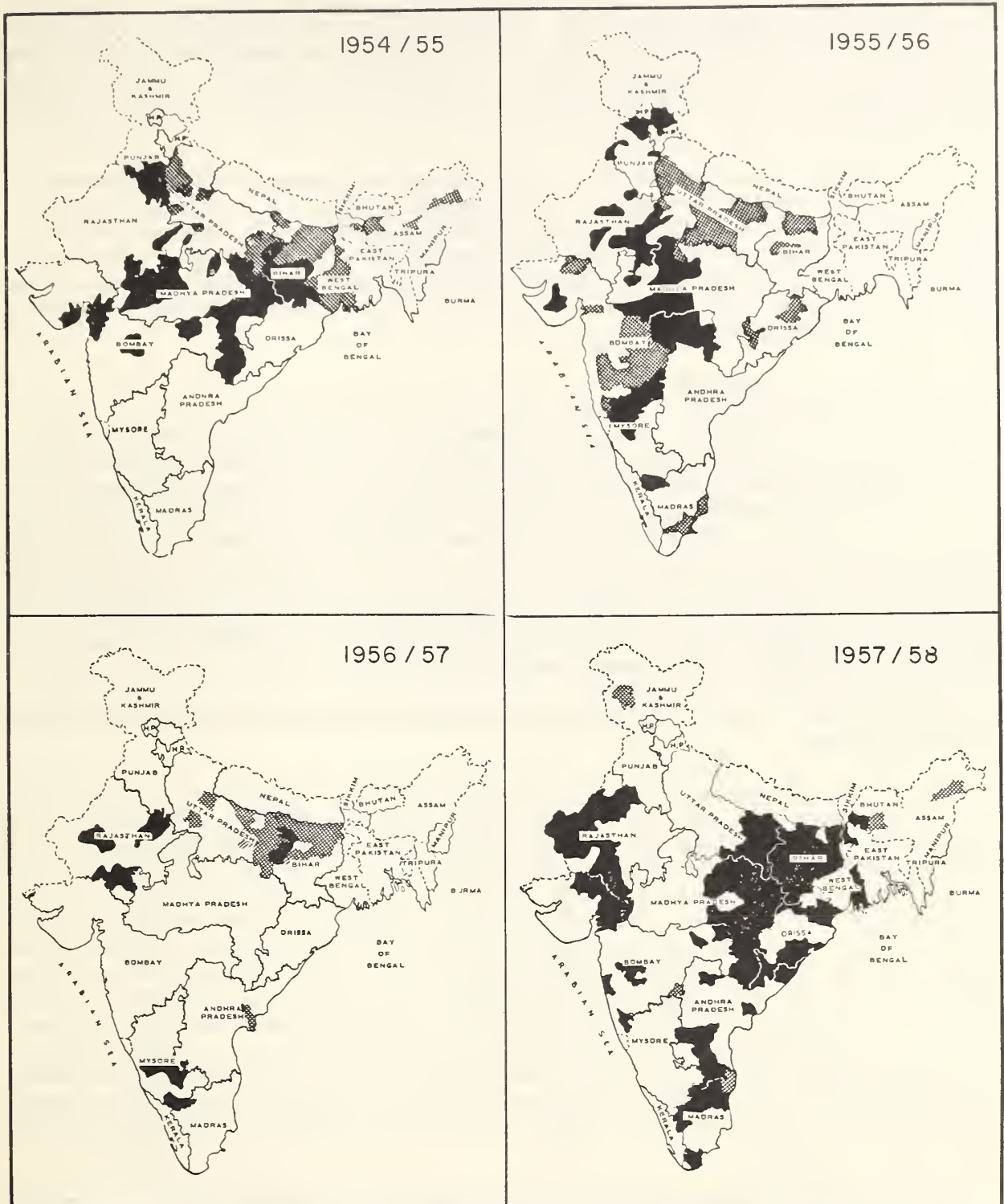
“The scope for increasing the area under cultivation is extremely limited. Such increase as may take place in the area under cultivation is likely to increase the production mainly of the coarser grains. As national income increases, there may be a general tendency for demand to shift from the coarser to the superior grains, especially to rice, wheat and maize. In the circumstances, the main source of increase in agricultural production must be increase in yields from more intensive, more efficient and more profitable agricultural production. It is now within the bounds of practical action to bring about a rapid and fairly widespread increase in agricultural yields.”

71. The principal means proposed by the Indian Government to increase the quantity of foodstuffs are the provision and proper utilization of water and fertilizer. These would be supplemented by comprehensive programs of improvement in land use, expansion of multiple cropping, increased intensity of cultivation, provision of improved seeds, soil conservation, contour bunding, plant protection, better implements and improved agricultural practices. Detailed programs have been developed for different crops, for animal industries and for forestry and fisheries. The farmers would be aided in their use of this complex of more abundant factors of production and better rural techniques by an expanded extension service, backed by enhanced research and education. Improvements are planned in the marketing system. Better grading and inspection services are being established. Storage is being expanded and distribution systems improved. Adequate provision of credit and an efficient system of service cooperatives will facilitate production.

FLOOD AND DROUGHT AFFECTED AREAS, 1954 / 55 to 1957 / 58

▨ flood

■ drought



72. These measures form a comprehensive program of agricultural development designed to provide the stimulus and opportunity for expansion of rural output.

73. The agricultural program is complemented by the further development of power resources, fertilizer factories, bridge, road and rail construction, and other industries which will provide the goods and services needed by the farmer. In the aggregate, the growth in industrialization, in national income, and the probable changes in its distribution will increase the demand for food and raw materials from the agricultural sector.

74. Investment needs have been calculated for each program and these are currently under review in the light of the total resources likely to be available during the period of the Third Plan. It is not possible to state precisely to what extent any particular program will contribute to the desired expansion in output of cereals, pulses and other foods, since this will depend on the interaction of the various programs put into effect. However, it is possible to recognize some of the factors that might limit achievement of the production targets.

Limitations to Expansion

75. Climatic variability has been discussed in a preceding section. Given sufficient stocks of grain, an adverse season will not lead to declines in consumption levels, while favorable seasons will provide opportunity to replenish stocks or build them up further. However, an adverse season will set back the effectiveness of investment in the agricultural sector, so creating difficulties for the phasing of the planned development. It will be seen from Table 2 that the Indian Government expects a sharp rise in production in the final years of the Third Plan as the investment made earlier comes to fruition. It is thus of considerable significance for the success of the Plan, and hence for the size of the food deficit, when the adverse seasons may occur, as well as their extensiveness and their intensity.

76. Difficulties will also be experienced in the provision of the means of expansion mentioned above.

77. Before considering these, it is worth noting that in the view of some Indian authorities problems of land reform, while still requiring improvement, no longer constitute a major obstacle to increased agricultural output. Nevertheless, the size of most holdings is very small, and the majority are insufficient to occupy fully the efforts of the cultivator and his family. In addition, some 20 percent of the rural labor force is landless. The problem of rural unemployment will probably increase during the period of the Third Plan. Although the proportion of the total population in rural areas is likely to decline slowly because of the more rapid growth of the cities under the forces of industrialization and urbanization, the actual rural population is expected to rise by 23 million. It is essential that further efforts be made to increase employment opportunities in rural areas and highly desirable that rural manpower be utilized more fully in labor-intensive work that will contribute directly to production and distribution of foodstuffs, e.g. construction of wells, tanks and reservoirs, soil conservation works, contour bunding, improvement of village market roads, building up storage facilities and village improvement.

78. By the end of the Second Plan approximately 78 million acres are expected to be under irrigation, about 80 percent to be used for foodgrains. The Third Plan in-

creases the emphasis on minor irrigation schemes and proposes a program of new minor irrigation works to cover 15 million more acres. Major irrigation works would add another 15 million acres to the gross irrigated total.

79. Experience has shown the difficulty of expanding the area under irrigation. Of the additional 20 million acres scheduled to be irrigated in the Second Plan, approximately 15 million acres are likely to be achieved. It is probable that all the minor irrigation works will be attained. Moreover, there exists a gap between the potential irrigation facilities that have been created and the actual area irrigated. Difficulties are being encountered in the provision of lateral channels and adequate drainage, and in the lack of sufficient understanding of water use by producers.

80. To achieve the maximum benefit from improved water availability, greatly increased supplies of fertilizers will need to be used. Only part of this can take the form of organic manures and green crops. A large increase in supplies of chemical fertilizers will certainly be necessary. Use of main chemical fertilizers in recent years is shown in Table 5.

81. The use of nitrogenous fertilizer has increased considerably, but further expansion has been limited by lack of foreign exchange to finance imports. The Ministry of Agriculture suggests that by the end of the Third Plan use of nitrogenous fertilizers to the extent of 1 1/4 million tons (in terms of nitrogen), together with increased use of phosphate and potassium fertilizers, will be required as part of the complex of improved practices needed to attain the proposed agricultural output. The greater part of total fertilizers used will be needed for foodgrain production.

82. Over the five years of the Plan, it is estimated that foreign exchange to the value of \$800 million will be required for import of chemical fertilizers. As additional fertilizer manufacturing capacity is developed in India, the requirements of foreign exchange for annual imports of fertilizer will be correspondingly reduced. But the establishment of fertilizer factories requires both time and heavy capital investment including a high proportion of foreign exchange. The Indian authorities state that 10

Table 5.—Use of chemical fertilizers

Year	Nitrogen	P ₂ O ₅
	<u>Thousand tons</u>	<u>Thousand tons</u>
1950.	55	--
1951.	56	10
1952.	55	7
1953 ¹	85	8
1954.	91	15
1955.	103	13
1956.	124	16
1957-58 ¹	139	22.5 (1957)
1958-59	150	28 (1958)
1959-60 (estimated)	239	57
1960-61 (Target)	462	66
1965-66 (Target)	1,250	250

¹ Fifteen months.

Source: Ministry of Food and Agriculture.

factories each of 80,000 tons nitrogen capacity will be needed over and above the level reached at the end of the Second Plan, and estimate the capital requirements of these new factories to be:

Foreign Resources	\$250 million
Internal Resources	Rs. 1250 million (approx. \$250 million)

83. In a situation of acute foreign exchange shortage, increased imports of fertilizers might have the effect of causing postponement of investment in the fertilizer factories or of compelling the authorities to forego investment in some other sectors of the economy. Nevertheless, if the supply of fertilizers is not expanded sufficiently, it will lead to difficulties in the phasing of the agricultural program under the Third Five Year Plan with the likelihood of greater food deficits. In addition, each of the other programs carries its own problems of demand for foreign exchange. For example, the plant protection program, which offers one of the quickest ways of adding to the availability of crops, requires pesticides, herbicides, etc., costing approximately Rs. 750 million (\$150 million), about one-third of which would have to be imported.

84. One of the main obstacles to rapid expansion of agricultural production lies in the problem of bringing knowledge to the farmers. Considerable attention will need to be given to the expansion of the national extension service and to the training of extension workers. At present each village level worker covers about 1200 farmers, in those areas where extension has been undertaken, which at present is only about half the country. The village level worker is not only concerned with agricultural production but also responsible for seed and fertilizer distribution in his area and for all the community development work except health in about 10 villages. Much of his time is spent in travelling from village to village mainly by bicycle over poor roads and dealing with non-agricultural problems. Because of the low literacy rate, the process of transmitting knowledge to farmers is, in general, slow and difficult. It might be desirable, because of the importance of the agricultural sector, to establish an extension service with predominately agricultural responsibilities. In order to provide one agricultural extension officer for each 600 farmers, some 200,000 additional trained workers would be needed. The agricultural colleges and extension training centers in India now train only 7,000 persons per year.

Marketing and Price Stabilization

85. Extension of the system of regulated markets, improvement in market intelligence and better distribution facilities should help reduce fluctuations in prices received by producers and reduce regional shortages. Development of marketing cooperatives could in the future appreciably help stabilize prices. However, if the Government is to maintain prices for grains within reasonably narrow limits, it must be in a position to buy and sell at all times. The known existence of a large stock of grain would assist in reducing speculation and price fluctuations. Care must be exercised however in controlling food prices through reserve supplies, that their relationship to the prices of other commodities is not distorted; otherwise, there may be a possibility of some disincentive to cereal and pulse production. This tendency would become stronger as the rural sector moves away from a largely barter system towards a more monetized system.

Investment in Agriculture

86. The possibility of attaining self-sufficiency in food by the end of the Third Plan is directly dependent upon the total capital investment that is made in the agricultural sector. The problem is what priority to place on investment in agriculture as compared with the investment in other sectors of the economy so that a balanced overall development may result. The Mission believes that agriculture should be accorded the maximum priority that is possible without undue distortion to the overall Plan for India's development.

87. The greatest obstacle will almost certainly be the shortage of foreign exchange. Only about 4 percent of the total investment in agriculture (as defined for Indian planning purposes) will be needed in the form of foreign exchange, but this is apart from the foreign exchange required for import of fertilizers, construction of fertilizer plants, pesticides and herbicides, major irrigation works and for private investment. While it is difficult at this stage to place a firm figure on the foreign exchange requirements for agriculture in its broad sense, it seems reasonable to anticipate that these needs will be so great as to create pressure from other sectors for a reduction in the proposed rate of agricultural expansion.

88. While the Mission was in India discussions were being held, between the Ministry of Food and Agriculture and the Planning Commission, as to the size of investment to be made in the agricultural sector under the Third Plan. It appears that some scaling down will be necessary to enable the agricultural proposals to be fitted within the framework of resources available for the overall plan. It is doubtful, therefore, whether a production of 100 million tons of foodgrains will be attainable by 1965-66.

89. If the total investment in agriculture has to be curtailed, then production of foodstuffs and especially production of cereals and pulses will rise more slowly than desired under the Third Plan. Self-sufficiency may still be attainable, but later than 1965-66. In the meantime, the foodgrain deficit would be greater than indicated above. This would necessitate either increased commodity assistance or a lower level of food consumption for India's expanding population.

90. Equally important would be the fact that resources would have to continue to be diverted in subsequent Plans to the expansion of cereal and pulse production in an effort to overcome the deficit. In that event attainment of a self-sustaining economy would be retarded. This would also delay the time when India no longer is dependent on external aid.

Port Facilities

91. The Mission inspected port facilities at the major port cities of Calcutta, Bombay, Cochin and Madras. For the most part, port facilities appear to be adequate for the total volume of traffic currently being handled. The equipment is relatively modern and efficient, and there were few evidences of congestion. Delays in obtaining a berth did not extend beyond one or two days in any of the areas visited. There is no doubt, however, that the situation is quite different during the height of the monsoon period when work is frequently interrupted and delays occur as a result of heavy rainstorms.

92. In spite of the fact that both incoming and outgoing traffic appears to be handled with reasonable dispatch, extensive improvements are being made to all major ports, both in terms of increased facilities and modernization of equipment, in anticipation of a growing volume of ocean traffic. The present and projected capacities when improvements underway are shown in Table 6:

Table 6.—Capacity of major ports¹

Port	Present capacity	Capacity 1960-61	Volume of traffic 1958-59
	Million tons	Million tons	Million tons
Calcutta	11.0	12.5	9.2
Bombay	13.0	13.0	11.8
Madras	2.5	4.5	2.4
Cochin	2.5	4.0	1.8
Visakhapatnam	2.5	5.0	2.5
Kandla	1.3	1.8	1.1
Total	32.6	40.8	28.8

¹ There are a number of minor ports with a total capacity of roughly 10 million tons.

93. Imported cereals are handled through each of the major ports, but the method of discharge varies from place to place. Grain cargoes carried by freighters are either bagged in the hold prior to discharge, or are discharged in bulk, employing canvas covered slings, and bagged on the pier. Weights are standardized in the dock area, and distribution of bagged grain made directly to mills or to storage godowns. Grain carried in tankers is discharged on the quay-side by means of portable pneumatic evacuators, then bagged, standardized and distributed. With the exception of the pneumatic evacuators employed on tankers, all operations are by hand, utilizing the readily available labor supply.

94. The methods of unloading cereal cargoes in India are cumbersome by Western standards. At no port is mechanical unloading equipment, associated with silo storage, available. The most progressive system employed is capable of an average discharge of only 2000 tons per day per vessel, with work conducted in two shifts. At the present time berthing and unloading priority is given to foodgrain cargoes, with three shifts occasionally employed to maximize discharge rates. The overall volume of traffic passing through the major Indian ports at present is not such as to cause extensive delays in the movement of any commodities. The Mission was assured on several occasions that despatch money is earned on most grain cargoes rather than demurrage being assessed. This is undoubtedly the result of the priority system followed, and may cause delays in the unloading of general cargoes. Particularly will this be true during the height of the monsoon period, and give rise to the necessity of programming imports of cereals to avoid the periods of rainfall concentration.

95. Perhaps the greatest deficiency in the port handling system for cereals at the present time is the lack of any cleaning facilities, and the fact that distribution is made directly to retailers without foreign matter having been removed.

96. With the completion of expansion programs under way, there is no reason to believe that port facilities in India will not be adequate to take care of the volume of

sea-going traffic likely to develop in the near future, and to provide for an increase in the total tonnage of cereals handled. Various estimates, ranging up to 25 percent were given by port authorities as to the increase in cereal traffic which could be handled without prejudice to other commodities.

Distribution Facilities

97. Cereal imports are currently handled on a priority basis, both at ports and through internal distributive facilities, including the allocation of railway rolling stock. No evidence was found of difficulties in the movement of imported grains from port areas to the major consuming markets. There are difficulties, however, in supplying adequate stocks to those areas which are not serviced directly by rail, and more particularly in the movement of indigenous grains from one area of the country to another. This results in a phenomenon of scarcity of food supplies in individual areas, even though total supply in the country is sufficient to meet consumption needs. On the whole transportation is not yet adequate to ensure satisfactory distribution of food supplies. Assam, for example, is linked to the rest of India through a single rail line. Many rural districts are accessible only in the dry season. There is real and urgent need for improved market roads in many rural areas, and for an increase in motor truck transport.

Storage Facilities

98. Only about one-third of the indigenous production of cereals and pulses in India enter commercial markets. The balance is consumed on farms and in villages in the production area. Commercial trade in grains approximates 25 million tons per year, including imported cereals. For the most part indigenous grains are handled by the private trade, are bought, stored and resold without government intervention except licensing control. The storage facilities employed by the traders are local in nature, and vary from underground pits to sheds to private residences. No statistics are available on the total capacity of such storage and it is generally conceded that storage conditions in the private trade are such as to permit both wastage and deterioration of grain.

99. The Central Government controls the storage and distribution of all imported cereals, and in addition, in cooperation with State Governments, engages in procurement of relatively small quantities of wheat and rice in locally surplus producing areas from time to time. These cereals under government control serve two major functions—they are utilized to help meet the country's food needs and at the same time for price stabilization in major market areas. Stocks are held in public facilities widely dispersed throughout the country, and are fed gradually into commercial channels through Fair Price shops, or made available to mills, at a fixed, subsidized price.

100. With one exception all publicly owned cereal storage facilities in India are godown sheds. The exception is a 10,000 ton metal silo at Hapur, associated with a grain storage and inspection school. There are various types of godowns employed for cereal storage, ranging from rented sheds to recently constructed storage depots. The latter are long concrete structures on a raised concrete base, with good ventilation, rodent-proofing, and adequate drainage to prevent water damage during the monsoon season. Loading aprons are provided on both sides to facilitate receiving and discharge operations for truck and rail. In contrast to these modern and efficient units general commodity storage sheds, not originally designed for cereal storage, are also being utilized and are subject to hazards of grain loss and deterioration.

101. The annual report of the Department of Food, Ministry of Food and Agriculture, indicates that the total storage capacity controlled by the department at the end of 1959 was 1,550,000 tons, of which 420,000 tons was owned and 1,130,000 tons was hired. In addition to this the various state governments control cereal storage capacity amounting to roughly 1 million tons.

102. Over and above these facilities, which are owned or operated directly by government authorities, a small volume of storage is presently available through the central and State Warehousing Corporation—approximately 190,000 tons—all of which is hired accommodation. The corporations are semi-governmental organizations established to provide adequate storage facilities, on a rental basis, for all agricultural commodities.

103. The Central Government has a program for the construction of new cereal storage facilities during the later years of the Second Plan and into the Third Plan period. This program involves additional godowns throughout the country, the hiring of commercially available storage space, the construction of port silo storage facilities, and greater efficiency in the operation of existing facilities. Many of these projects are already underway. It is anticipated that by the end of 1961, total storage capacity controlled by government agencies will approximate 4 1/2 million tons, and by the end of 1962 the target of 5 million tons will have been reached. Silo storage is planned for all the major port areas, with inland silos in the vicinity of Bombay and Calcutta. To date, however, work has started on only one 10,000 ton silo in the port area of Calcutta.

104. The target figure for government storage—5 million tons—represents only 5 percent of the proposed total production and 15 percent of the marketable supplies of cereals and pulses by the end of the Plan. It is apparent that the government is thinking in terms of imported and reserve stocks only, and that others, particularly co-operatives, are expected to provide storage facilities for indigenously produced grain entering commercial trade channels. Because of the greater volume of grains that will be moving into consumption, an increase will be required in commercial "pipeline" stocks although once it becomes apparent that the Central Government is in a position to make its price stabilization policy effective, this may be offset to some extent by reduction in the speculative stocks, which it is alleged, are held back by farmers and merchants.

105. Up to the present time the limited storage facilities under government control have been adequate to meet distributive needs for imported cereals, except in unusual circumstances. This is due to the fact that such grains have gone into consumption almost immediately and consequently the requirements for storage have been limited under conditions of very rapid turnover. Rarely did the Mission encounter stocks of cereals which had been held in godown storage for a period as long as three months. In most cases the turnover was much more rapid, and a significant part of the imports go directly from vessels to mills or retail distributors. It is suggested that essentially the same procedure will obtain over the next few years on cereal imports up to a volume of 5 million tons.

106. Present facilities are, however, very inadequate to provide any long-term storage for the volume of reserve stocks contemplated by the Indian Government. There is a real need for an immediate and extensive construction program to meet three basic requirements:

- (a) To facilitate more efficient handling and storage of imported cereals which are required for immediate consumption;

- (b) to provide adequate reserves at widely distributed locations to permit effective price stabilization;
- (c) to provide long-term storage as insurance against disaster or local crop failure.

107. The Mission is of the opinion that the program of construction presently planned should be implemented without delay, and that particular emphasis should be placed on modern and efficient units for long-term storage. Any build-up of reserve stocks from imported supplies will have to be phased in relation to the availability of suitable storage, over and above that required for current needs.

108. It must be appreciated that wheat and rice which enters godown storage in India is distributed in small quantities to a very large number of retail stores, licensed as Fair Price shops, as well as to mills. It appears quite reasonable, therefore, that internal distribution be on the basis of bagged grain. The use of godown type structures for cereal storage involves a considerable amount of labor, but is justified on the basis of cheaper construction costs and a readily available low-cost labor supply. For these reasons godown type storage widely distributed throughout the country appears to be an efficient and reasonable means of handling cereal distribution.

109. On the other hand, there are strong arguments favoring the use of silo storage in port areas where the volume of cereal handling is concentrated. Discharge from vessels would be speeded up through mechanization, thereby reducing risk of delays in the movement of general cargo as imports of cereals increase. Cleaning facilities would be available and foreign material removed before storage and distribution to consumers. Fumigation operations on a bulk basis would be possible before bagging in insect-repellant jute bags, so that long term storage of reserve stocks could be undertaken with less risk of deterioration.

110. The Mission is of the opinion, therefore, that more emphasis and priority should be given to the planned construction of port silos, if imports of the volume contemplated in this report are to be handled with dispatch and efficiency.

Processing Facilities

111. The roller flour milling industry in India is subject to Government control in respect to supplies, to the price of raw material, and the sales price of the milled products. Mill grind is generally limited by the allocations of wheat made by the Government authorities, and varies from area to area. In Calcutta area for example, as in many other parts of India, wheat is consumed largely in the form of chapatti—a flat unleavened pancake made from “atta”—whole wheat flour. In this area, approximately two-thirds of the total wheat supplies are sold direct to consumers through Fair Price shops, and subsequently ground as required by individual consumers by local burr type “Chakki” mills. The remaining one-third of the available wheat supplies are allocated to roller mills in the area, which are required to grind 45 percent Atta, 40 percent white flour, including farina, and the balance as feeding stocks. The Calcutta mills are operating at two-thirds of their milling capacity, and their supplies are virtually on a day to day basis with distribution directly from ocean vessels. There is, consequently, no uniformity in the quality of flour produced since the source of imports and the type of wheat vary from vessel to vessel.

112. On the other hand, in the Madras area of South India, there is an expanding milling industry with efficient and modern units working at full capacity on a 24 hour per day basis and grinding exclusively white flours. The essential difference between these two situations stems from the fact that the use of wheat in the south is relatively new and is confined to bakery products and sweets. There are other variations related to local supply conditions.

113. There is considerable scope for improvement in the baking industry throughout India. Bakeries suffer from a lack of modern equipment, from the limited availability of bakers yeast, and from constantly changing flour quality. The use of wheat in the form of bread is not widespread except in the major urban centers, but is likely to develop as industrialization and urbanization take place. The quality of the products presently being turned out is not such as to promote increased utilization of bread in most areas.

The Non-Food Deficit

114. Reference has been made previously to India's need for external assistance in order to achieve a self-sustaining economy. If foreign assistance is to be truly useful, it is important to both donor and recipient that the assistance granted be adequate in amount and duration to warrant the forecast that at some point in time further assistance will not be required. It is likewise important that the use of the assistance in combination with indigenously available resources be so efficient that the amount and duration of that assistance is minimized. To the extent that varying types of assistance are interchangeable, it is important from the standpoint of foreign donors that the type which is easiest to provide is maximized and that which is most difficult minimized.

115. Economic development is largely a function of the ability to invest an increasing portion of current production. All developed self-sustaining economies have a relatively high ratio of gross investment to Gross National Product. Recent percentage figures are: for Japan 27, Canada 27, Australia 26, Western Germany 22, and the United States 17. India hopes to reach 11 percent at the end of the Second Plan in 1961. To reach 11 percent from the 8 percent prevailing at the beginning of the Second Plan required massive national effort and the provision of approximately three billion dollars of external assistance in all forms (loans and grants including private investment). In addition India reduced her foreign exchange reserves during the same period by more than a billion dollars and faces the opening of the Third Plan with reserves only equal to the value of approximately three months imports, even at the low rate permitted by current import controls. At the level of demand existing and foreseeable for India's exports, it is doubtful whether she can finance from her own resources the maintenance requirements of the economy now in being, let alone expand that economy.

116. The Third Plan, now entering its final stages of revision, appears to be modest if not minimal in its general objectives. If successfully executed it should permit India to increase its gross investment from 11 to 15 percent of its estimated Gross National Product. This is about the minimum level at which many theorists believe it is possible for a nation to expand its economy primarily from its own resources.

117. The magnitude and feasibility of the Third Plan will be debated for some time to come. Two missions from the International Bank for Reconstruction and Development have already visited India for this purpose. The Mission, after extensive conversations

with Indian officials and others, believes that the tentative proposals for the Third Plan are sufficiently well conceived and thought out so that some pattern of action closely approximating the Third Plan in its present form may be assumed to be essential to the continued economic growth of India.

118. If the Third Plan is used as a working hypothesis, a series of questions immediately arise. What are the external requirements of the Plan? What are the internal requirements of the Plan? To what extent can these requirements be met by providing wheat on concessional terms?

119. Indian officials recognized the great utility of wheat presently being provided. It was felt that the annual receipt of approximately 3 1/2 million tons was performing an essential function both nutritionally and as a price stabilizing factor. The Mission felt that, to the extent that India's balance of payments difficulties have been relieved through concessional wheat sales, those wheat exporting countries whose commercial marketings have been reduced have also made a contribution towards the overall development program.

120. On the other hand, it was continuously emphasized to the Mission that greatly increasing the flow of non-food imports essential to further capital investment remained the crucial problem. These imports had been drastically curtailed after the onset of the foreign exchange crisis in 1957 and this had resulted in the scaling down of the Second Plan national income target by some fifteen percent. Protracted delay in providing foreign exchange credits would make it more difficult to meet Third Plan goals, even if the total amount required is eventually provided.

121. Additional wheat would further facilitate governmental price control efforts, would help maintain current consumption levels, and would aid in speeding up the time when Third Plan consumption targets could be reached; but additional wheat could not be substituted for the hard core of non-food imports required. These additional requirements were estimated to be of the order of \$5 billion for the five years of the Third Plan. Similar responses were received when the utility of additional wheat as an off-set to inflationary deficit financing was discussed. It was agreed that additional wheat flowing into consumption would be a source of non-inflationary rupee financing, but it was felt that the consumption level permitted by additional wheat imports should not be allowed to exceed the level which could be maintained by local food production when Third Plan targets are reached. Indian officials apparently would prefer the painful course of levying additional consumption taxes in order to off-set deficit financing should internal inflationary pressures appear to be rising dangerously.

122. The logic of the Indian position seems so impeccable that the Mission is constrained to point out the importance of a carefully balanced approach to all of India's requirements for external assistance. If India is soon to be a self-sustaining modern economy, it must receive that amount of assistance which will permit the investment targets of the finally agreed Third Plan to be realized, and realized on time. If the needed non-food resources can be found for India, then the provision of wheat in the amounts indicated in an earlier section of this report is warranted and highly desirable. If the needed non-food resources cannot be found for India, then furnishing large quantities of wheat alone would eventually become a wasteful extravagance. Wheat supplied on concessional terms is fully useful only if its provision is accompanied by "other actions" designed to give India a real prospect of becoming self-sustaining at an increasing rate of growth.

123. Wheat exporting nations friendly to India are therefore faced with a paradox. As foreign exchange is available to India to build the industrial and agricultural plant that will make her eventually self-supporting, wheat becomes an important asset to the growing economy made possible by the non-food imports. If foreign exchange is not available, wheat could become an added deterrent and handicap, remaining unsold for lack of purchasing power from within a stagnating economy.

124. The "other actions" required are the provision of that minimum quantity of claims on the non-food resources of the world which make a slowly expanding economy a practical reality. It is not appropriate for the Mission to attempt to calculate how small that additional provision can safely be. It is appropriate to say that recognition of, and provision for, the additional foreign exchange requirement, in whatever amount is finally determined to be necessary, is an essential and complementary act to the recommended provision of a supply of wheat to India on concessional terms.

Rupee Proceeds of Sales of Concessional Wheat

125. The Mission was concerned with the problem of exploring the uses to which the rupee proceeds of the sale of concessional wheat should be put. It was recognized that relating the use of these rupees to the total supply of rupees, to the maintenance of internal financial stability and to the planning process for economic development is of the greatest importance.

126. In India today, as a result of intensive efforts to increase capital formation, there is continuous inflationary pressure upon the prices of most available supplies, caused by the impact of deficit financing upon a population still living at the subsistence borderline. Even though the foreign exchange cost of economic development is greatly reduced by aid-financed imports on a large scale, the rupee costs of the development program generate heavy pressures upon the prices of available consumer goods. While India's financial control techniques are modern and sophisticated, some inflationary pressures cannot readily be off-set by additional taxation or other counter-inflationary techniques if India is to maintain her traditionally democratic society and continue her rate of investment.

127. Wheat supplied on concessional terms is sold by the Indian Government thereby providing an excellent off-set to the inflationary pressures of development financing through its ability to absorb excess purchasing power. At the same time donor countries are understandably anxious to be able to show that "specific projects" are being financed from wheat sales funds, thereby demonstrating that the donor is "directly" rather than "indirectly" assisting specific development projects.

128. Obviously, spending the proceeds of sale of concessional wheat partially or wholly nullifies the beneficial counter-inflationary effect of the original sale unless there is a corresponding reduction in rupee expenditure derived from deficit financing. On the other hand, protracted failure to agree to spend sales proceeds blocks the donor's wish for direct participation in defraying the rupee costs of desirable economic development projects, while at the same time subjecting the recipient government to all sorts of pressures from special interests anxious to have the "available" rupee funds spent on their behalf. Trying to implement a donor's desire to assist specific projects presents a complicated problem in timing and cooperation which, if not understood and resolved can be a constant source of difficulty to both donor and recipient.

129. In recipient countries having an effective overall plan for economic development, the problem can be solved if the donor agrees to finance projects from within the economic development plan. The problem is much more difficult to solve where donors wish to suggest new projects for the consideration of recipients. In such a case many difficult adjustments necessarily delay the reaching of mutual agreement, on this latter basis.

130. One useful solution to these difficulties might well be for both donor and recipient to begin planning for the use of rupee sales funds as early as possible, based on estimates of the amounts which will be derived from sale rather than on the basis of sales proceeds actually accrued. Thus, in the case of India, donor governments may well wish to consider the desirability of having mutually agreed rupee expenditure proposals ready sufficiently in advance so that they can be included routinely in the annual readjustment of the Five Year Plans characteristic of present Indian procedure.*

Market Development

131. From a long term point of view India offers excellent prospects for increased consumption of wheat.

132. About half the population is already familiar with wheat products in one form or another, and consumption would increase if the requisite purchasing power were available and the price relationship with alternate grains favorable. To the large millet eating population of the central and western regions, wheat is a preferred food. To the population of the southern and eastern regions rice is preferred to wheat today, but there are indications that, with growing industrialization and urbanization, the demand for wheat as a supplementary dish will go up substantially, especially for meals taken away from home. In south India the demand for wheat is mainly in the form of flour and purified middlings (farina and semolina). To the people of the northern regions of India, wheat is already the main cereal. Most consumers buy the whole grain in order to have freshly ground atta. Even here, the levels of income and food consumption are still unduly low so far as the bulk of the people are concerned, and for some years to come an increase in income is likely to lead to an increase in the consumption of wheat.

133. There will be some advantage if the consumption of wheat goes up relative to that of other cereals inasmuch as it is more amenable to modern techniques and gives higher yield per acre than millet and demands much less labor than rice.

134. As mentioned earlier, the main condition for increased wheat consumption in India is an improvement in the purchasing power of the people, and this requires progressive economic development. Even with the modest increase in national income during the last five years, the relative share of wheat in the total amount of cereals consumed in the country has risen from 15 to 20 percent, without a decline in the consumption of other cereals. This increase has been partly the result of the Indian Government's policy of selling large quantities of wheat at controlled prices through fair price shops made possible inter alia by concessional supplies under PL 480 and the Colombo Plan.

*This analysis does not refer to the effects of spending rupees retained by a donor government for its own use.

135. Other conditions for greater wheat usage are ensuring, as far as possible, an adequate supply of good uniform quality wheat and wheat products, and emphasizing nutritional, educational and demonstrational work.

136. As indicated previously, there is no uniformity in the quality of flour presently available in India. Conditions that would enable mills to be supplied with constant proportions of various types of wheat would encourage flour consumption. This would necessitate much larger stocks of wheat in Government hands.

137. Under Indian climatic conditions, it is impossible for bakers to turn out an acceptable product until they are in a position to obtain a supply of yeast of uniform quality. Licenses have been issued to two or three manufacturers for the production of dried bakers yeast.

138. The manufacture of good bakery machinery in India would also contribute towards market development of wheat products.

139. A program of nutritional education will help optimum use to be made of available food supplies. There is an urgent need for more widespread dissemination of nutritional knowledge in India. This could be helped by nutritional education in schools, especially in women's high schools and colleges, and through Community Development programs. Child and Maternity Clinics are organizations which are particularly suitable for spreading nutritional education among housewives. If such clinics could be suitably organized to undertake simple educational activities, in addition to clinical activities, it would prove useful for nutritional improvement.

140. Demonstration programs are probably one of the most effective means of encouraging improved food habits because of the multiplicity of languages and the low educational level. As found in Japan, emphasis on the best use of a range of available foods is more acceptable to the people and more beneficial to health than promotion of wheat products alone. Demonstration procedures and equipment would need to be adapted to Indian conditions.

141. There is a wide scope for assistance to programs that are designed to provide low cost meals under special circumstances. Some of these programs already stress wheat products, while others would be willing to do so. For example Annapoorna Restaurants are being developed throughout the country by the All India Women's Central Food Council. Despite the low prices charged for meals, these cafeterias are fully self-supporting as a result of efficient management and supervision provided by the organization.

142. The school lunch program in Japan has proved an effective way of familiarizing families with the use of bakery products. It is not practical under present conditions to establish a school lunch program in India covering the entire school-age population, estimated at over 100 million. The Indian Government faces a major problem in providing sufficient schools and teachers to enable all these children of school age to receive an education. In such circumstances, resources cannot reasonably be devoted to school kitchens and feeding facilities. The Indian Government, however, is encouraging the provision of school lunches where the costs can be borne by the local authorities, or by parental or private financing.

143. The Mission was impressed with the example of a school lunch program in Madras, where the local Corporation is matching funds raised by private collection. The program covers the feeding of children of low income families, and children suffering nutritional deficiencies. Approximately 25 percent of the children in school in Madras are covered by this scheme, which might serve as a pattern for other centers. Unlike the systems commonly used in the U.S. and Japan, the school lunches are prepared in bulk at central kitchens and distributed to 115 schools. In order to encourage the spread of the school lunch program, including the spread of wheat products, consideration might be given to the provision of assistance for this purpose. This might take the form of wheat products and facilities.

144. There are many wheat dishes which are popular in some parts of India and unknown in others. These are likely to be more to the taste of the Indian people than some of the preparations which are familiar in the West. It would be useful if these local recipes were collected, improved upon where possible, and then popularized through the demonstration and educational programs recommended above.

145. Bakery and cookery training is now taught in only one organized vocational school in India, although plans are for three additional schools for this purpose. Bakery training is especially important in enlarging wheat consumption in the major cities. Cookery classes directed towards training village demonstration workers are also important.

146. The quality of bread in India is rather unsatisfactory. If quality could be improved, its popularity is likely to increase. There is a need for setting up a bakery training institute in India where modern bakery methods and equipment could be introduced to Indian bakers.

147. Noodles, macaroni, and bulgur offer possibilities for increased wheat utilization and would add variety to the diet of those living in rice eating areas. At the present they are considered "luxury foods", however with low cost production and better distribution, consumption should increase as incomes rise.

Future Prospects

148. The Mission feels that India's program for industrial development would help expand the market for wheat and her program for agricultural development would make larger supplies available from indigenous sources. India's dependence on a supply of wheat on concessional terms should largely disappear once she has been able to implement her Third Plan successfully. Whether her imports of wheat thereafter will decrease to a quantity less than the current level of commercial purchases will depend partly on the decision of the Indian authorities as to how far they push their policy of self-sufficiency and partly on the weather conditions experienced in any particular year. So long as India's agricultural and industrial productivity remains low, it is wise for her to strive for a large increase in foodgrain production. Once her industrial and agricultural productivity has improved substantially, a stage may come when she may find it advantageous to concentrate on producing other exportable commodities, and to import wheat with the foreign exchange so earned, as Japan has been able to do recently. If, on the other hand, she fails to develop her economy for want of resources, she will certainly be unable to pay for commercial imports for a long time to come and her dependence on concessional supplies will continue indefinitely.

149. It is in the interest of India and her friends that added impetus be given to her economy in the Third Plan period so that she reaches the self-sustaining stage as early as possible. The use of wheat supplies, together with other resources, can contribute to this end and in doing so, will mark a significant stage in the fulfillment of the noble objectives embodied in the concept of Food for Peace.

PART III

RECOMMENDATIONS

A. Japan

The Mission was impressed with the progress achieved in Japan in the field of nutrition education and market development for wheat. As the most industrialized nation in Asia, the Japanese experience provides useful guidance for the introduction of similar or modified techniques in other countries as they move toward Japan's current level of economic development.

It is recommended, therefore, that the Japanese activities in the field of nutrition, education, and market development for wheat be continuously reviewed by the Wheat Utilization Committee in relation to their applicability to programs designed for other countries.

B. Indonesia

1. Despite the fact that Indonesia has a great potential for economic development, the Mission is of the opinion that decisions relating to the possibilities for increasing wheat consumption in that country should be deferred.

It is recommended, however, that member countries of the Wheat Utilization Committee keep in touch with conditions in Indonesia so that they may decide the appropriate time at which in consultation with the Indonesian Government economic development may be facilitated and market development programs may be instituted to increase wheat utilization and improve nutritional standards.

2. It is recommended also that the Indonesian government be kept fully informed on programs under which wheat products may be supplied on concessional terms, and that consideration be given to any request by Indonesia for programs of assistance comparable to those being carried out in other developing countries.

3. In the event that wheat flour is made available to Indonesia on concessional terms, the Mission recommends that special attention be paid to the need for regular phasing of shipments.

C. India

The Mission wishes to record its firm conviction that it is in the interests of the member governments of the Wheat Utilization Committee, and indeed of all nations friendly to India, that this country should be assisted to achieve, as rapidly as possible a degree of development sufficient to enable a continuing improvement to be made in nutritional levels and standards of living within a self-sustaining economy which no longer has need for external assistance.

It is with this objective in mind that the following recommendations are made with regard to India:-

1. In view of the rapidly increasing population in India and the current level of agricultural production, the Mission is of the opinion that under average climatic conditions, a minimum deficit in cereals and pulses in the range of 4 to 5 million tons

annually over the next two years, will have to be supplied through imports if the present level of consumption is to be maintained. Thereafter, for a period of at least 3 years, similar quantities will be required if an improvement in the diet is to be realized, and as demand for food increases with progressive industrialization and urbanization. To a very large extent these deficits can be met through the provision of wheat. The Mission is also of the opinion that the foreign exchange resources available to India cannot be concentrated on food requirements without serious impairment to the development plan as a whole and to the realization of ultimate production targets in agriculture.

It is recommended, therefore, that within the framework of the guidelines governing concessional wheat sales adopted by the Wheat Utilization Committee, the member countries give serious consideration to:

- (a) The provision of adequate supplies of wheat to India on concessional terms to meet consumption requirements sufficient to maintain current nutritional levels during the next two years, and
- (b) An undertaking to provide the necessary supplies of wheat on concessional terms to realize some gradual improvement in nutritional levels during the remaining years of the Third Five-Year Plan.

2. The concessional supply of wheat may be vital to India's welfare, but wheat alone is not enough. In order to make optimum use of the supplies of wheat received, India will require substantial assistance in terms of foreign exchange for essential goods and services. Only if such assistance is available will she be able to implement her program for economic development, improve the purchasing power of her people, and utilize effectively large quantities of wheat for the objectives which the "Food for Peace" Program has in view.

It is suggested that the member governments of the Wheat Utilization Committee (if considered desirable, in conjunction with other nations friendly to India and with appropriate international agencies) may wish to give special attention to the Mission's conclusion that, over and above any aid wheat provided, the success of India's development program requires capital imports under aid of significantly greater magnitude than represented by concessional wheat imports.

3. The Mission considers that there exists in India the potential to become self-sufficient in food, but recognizing the magnitude of the food problem, in relation to an expanding economy and a rapidly increasing population, emphasizes the need for immediate and large scale expansion in indigenous food production.

It is recommended, therefore, that the provision of wheat on concessional terms be accompanied by a suitable understanding that such supplies will not be permitted to impede or cause a relaxation in programs for agricultural development and expanded production.

4. The transport difficulties, market imperfections and climatic variability from year to year which prevail in India make it highly desirable that reserves of food-grains be expanded. The Government of India has suggested that such reserves should be of the order of 5 million tons. This would be only 5 percent of the anticipated consumption requirement at the end of the Third Plan. The objective is not unreasonably large in a food economy which is at near subsistence levels.

It is recommended that consideration be given by member countries of the Wheat Utilization Committee to the establishment of a wheat reserve in India, on concessional terms, subject to the provision of satisfactory facilities for the handling and long term storage of such wheat; and that shipments of wheat for reserve stocks be phased in relation to the availability of such facilities over and above storage requirements for the day to day government operations in foodgrains.

5. The Mission has noted the improvements made in port facilities in India under the Second Plan and the further programs to provide additional facilities in keeping with the needs of an expanding economy.

It recommends that early action be taken to provide more adequate grain handling facilities at the major ports, including the construction of silos to facilitate receipt, cleaning, fumigation and bagging of imported wheat prior to long term storage in godowns and also to provide some storage in bulk for reserve stocks.

6. The Mission is of the opinion that there exists in India a considerable potential for the increased utilization of wheat. Conditions are currently such, however, that large scale market development projects along traditional lines may not be too productive. As incomes rise, there will be greater possibility for market development activities, particularly in urban centers. If efforts to popularize wheat products are made part of general nutritional education, emphasizing the best use of a range of available foods, they are likely to be more readily accepted by the people. There is a need for expanded technical training facilities for food production, industrial plants for the processing of wheat and wheat products, and increased availability of milling and baking machinery.

It is recommended that:

- (a) In market development programs emphasis be given to food demonstration and other educational techniques which will include the promotion of the wide variety of wheat foods already accepted by sections of the Indian public.
- (b) Encouragement should be given to pilot school lunch projects, so as to provide information on the potential for expanded use of wheat in programs of this type on a large scale when economic conditions permit.
- (c) In the event that wheat is supplied on concessional terms to build up reserve stocks, the Government of India should be encouraged to make every effort to supply mills with such types of wheat as will permit the production of a uniform standard quality of wheat products.

7. With respect to the use of funds derived from the sale of wheat supplied on concessional terms, the Mission wishes to draw the attention of the Committee to paragraphs 125 to 130 of the report.

8. Maintenance of nutritional levels in India is a critical problem, and improvement even to the modest extent proposed for the Third Five-Year Plan will require special effort.

The Mission recommends that the quality considerations involved in nutritional improvement, and referred to in paragraphs 37 to 53 of the report, should be given particular attention.

D. General

It is recommended that this Report be made public after it is reviewed by the Wheat Utilization Committee.

APPENDIX I

ESTABLISHMENT OF WHEAT UTILIZATION COMMITTEE

Excerpt from Joint Communiqué Issued by Food for Peace
Conference Announcing the Establishment
of the Committee

The Committee's activities will include consideration of the following:

1. Possibilities of expanding the world's commercial trade in wheat, including the development of new markets.
2. Ways of increasing and making more effective the utilization of wheat surpluses for the promotion of economic development and the improvement of nutritional standards.
3. Coordination of disposal programs for economic development with other development activities in the recipient countries so as to ensure that such programs will contribute fully toward increasing consumption and commercial markets.
4. The establishment of guidelines for providing wheat to individual countries on concessional terms and the safeguarding of commercial marketings.

Subsequently on June 17, the Committee adopted the following guidelines on Concessional Sales of Wheat:

The members of the Committee recognize the validity of the under mentioned guidelines for developing and carrying out programs of concessional sales of wheat, while at the same time admitting that it may be necessary to deviate therefrom under exceptional circumstances.

1. The growth of commercial wheat markets and the protection of the interests of traditional wheat suppliers should be a primary consideration in deciding on both the recipient countries and the terms of sales agreements. In principle, agreements should include an undertaking by the recipient country to purchase on a global basis, a minimum commercial quantity reasonably consistent with imports over a representative period, having regard to other relevant factors. Such quantity should be reviewed periodically so that appropriate adjustments may be made.

2. There should be an evident need for additional food supplies over and above domestic production and what the country can reasonably be expected to import commercially.

3. In deciding on recipient countries and in establishing commercial marketing quotas foreign exchange difficulty is a relevant factor but must be considered in relation to all other factors bearing on the justification for the program. Waiver or reduction of a commercial marketing requirement on the grounds of foreign exchange difficulty should be the subject of detailed analysis and of consultation with other interested exporting countries.

4. In view of the importance of assuring that concessional disposals result in additional consumption, thereby raising nutritional levels of the populations of recipient

countries, primary emphasis should be given to less developed countries with low levels of per capita income.

5. Care should be taken to assure that concessional disposals of wheat do not have the effect of creating or aggravating surplus accumulations in other commodities or of the same commodity in other countries.

6. The provision of wheat on a concessional basis should be related, to the degree possible, to development projects within the recipient country.

7. The supplying country should give other friendly exporting countries having an interest in the possible effects of a concessional sale of wheat reasonable opportunity for consultation and presentation of views before entering into an agreement.

APPENDIX II

TERMS OF REFERENCE

Wheat Utilization Committee Meeting
October 14 - 16, 1959

Committee Proposal on Foreign Market and Economic Development Programs

The Wheat Utilization Committee, having given consideration to the reports of the working parties on "Foreign Market Development Activities" and "Using Surplus Wheat in Economic Development," wishes to express its grateful appreciation to the personnel concerned with the preparation of the reports. The two studies have provided a useful basis for extensive discussion and the development of a course of action. The Committee, recognizing the need for improved levels of nutrition in many areas of the world, and believing that an increased use of the available supplies of wheat offer an opportunity to help satisfy this need, while at the same time contributing to the economic development of the countries concerned, commend to the consideration of their member governments the following proposal:

I. That a mission be organized to investigate and make recommendations upon:-

- (a) the possibilities of increasing the use of wheat to improve the nutritional level of the populations of the countries specified hereunder.
- (b) the extent to which wheat can be utilized in furthering the economic development programs of the specified countries.
- (c) the extent to which promotional and market development projects might increase over time, the commercial outlets for wheat in these countries.

II. That the general directives enumerated above be implemented under the following terms of reference:-

With respect to the specified countries the mission shall

- (a) investigate fully the food habits of the population in relation to the kind of food consumed, method of preparation, household facilities for cooking or baking; and to determine the levels of consumption, income scales, and the need for supplementary supplies to achieve a satisfactory level of nutrition.
- (b) assess the potential utilization of wheat in respect of any deficiency indicated in total food availability without disrupting normal consumption levels of other foods.
- (c) Investigate:-
 - (i) The adequacy of existing storage, transport, processing and distributive facilities to meet the current food needs of the population.

- (ii) Additional facilities needed to handle increased supplies of wheat required to meet normal increase in demand arising from population growth and economic development.
 - (iii) Additional facilities required to cope with unusual increases in wheat movement e.g. reserve stocks, special concessional transactions, etc.
 - (iv) The adequacy of port installations to handle present and anticipated food imports without disturbing normal trade movement.
- (d) To assess the prospect of increasing wheat consumption by utilizing increased supplies of wheat on a concessional basis, directly or indirectly, for economic development.
 - (e) Study the prospects of increasing wheat consumption through various promotional and market development programs, including the provision of processing facilities, technical assistance and educational programs.
 - (f) Study procedures under which additional wheat supplies, obtained on a gift or concessional basis, might be utilized without disturbance to commercial marketings of locally produced and imported wheat.
 - (g) Assess the probable extent of cooperation and assistance which would be forthcoming from the government of the country concerned in implementing economic development and market development projects arising out of the study undertaken by the mission.

III. In the conduct of this study the mission should give specific attention to:-

- (a) The use of concessional wheat imports in conjunction with other resources as necessary to facilitate development projects such as grain storage facilities, fertilizer plants and appropriate local community services which will generate or facilitate the generation of additional income and food consumption.
- (b) The desirability of using concessional wheat imports to promote improvements in the agricultural industry of the country.

IV. In proposing the Mission referred to above, the Committee suggests that two countries where explorations of the kind envisaged in the terms of reference could effectively be undertaken in the first instance are:-

India:- Where there is a low standard of nutrition, a need for extensive economic development and scope for considerable expansion of wheat consumption; and

Indonesia:- Where there appears also to be scope for expansion of wheat usage, some resemblance to the conditions in Japan which have made increased wheat consumption possible there and probably unexplored opportunities for using wheat to aid economic development.

The Committee considers that before visiting these countries the Mission should first make a short visit to Japan to make first-hand observations of the market development works carried out there under arrangements made by the U.S. Government.

APPENDIX III

MEMBERS OF MISSION

Pett, L. Bradley, Ph.D., M.D. (Chairman) (Canada)	Chief, Nutrition Division, Department of National Health and Welfare, Ottawa Former member FAO Expert Commit- tees on Protein Requirements and on Calorie Requirements
Roberts, Richard H., Ph.D. (Secretary) (U.S.A.)	Deputy Assistant Administrator, Market Development and Programs, Foreign Agricultural Service, Department of Ag- riculture, Washington, D. C. Former Director, Foreign Trade Pro- grams Division, FAS, Department of Agriculture
Hoffman, Earle S., B.Agr. Sc., B. Comm. (Australia)	Senior Economist, Department of Trade, Canberra Formerly Senior Economist, Bureau of Agricultural Economics
Lippincott, Richard E., A.B. (U.S.A.)	Acting Chief, ICA Mission to Lebanon Previously Program Officer, Near East, Africa and South Asia Division in ICA, Washington, D. C.
McDonald, Terence G. (U.S.A.)	Wheat Technologist, U.S. Western Wheat Associates, New Delhi Office Director, Kansas Milling Company, American Flours Incorporated, and Wichita Terminal Elevator Company, Kansas
Sen, Samar R., Ph.D. (F.A.O.)	Joint Secretary, India Planning Com- mission, New Delhi, India Loaned to FAO for this Mission as adviser-observer Former Economic & Statistical Adviser Ministry of Food & Agriculture Government of India Former Chairman, FAO Committee on Commodity Problems

Treleaven, Douglas H., B.S.A.

(Canada)

In India:

Carluy, Jacques, B.A.

In Indonesia:

Fevrier, Jean, B.S.

Secretary, Canadian Wheat Board,
Winnipeg

Loaned for this Mission to Agriculture
and Fisheries Branch, Department of
Trade and Commerce, Ottawa

Former Director, Statistics and Eco-
nomics Division, Canadian Wheat Board

Agricultural Attache
Embassy of France
New Delhi

Commercial Counselor
Embassy of France
Djakarta

APPENDIX IV

MEMBERS OF LOCAL COMMITTEES

Japan

Chairman: C.M. Elkinton
Agricultural Attache
Embassy of the United States of America

Members: N. F. Stuart
Commercial Counselor
Australian Embassy

N. W. Boyd
Second Secretary Commercial
Canadian Embassy

M. Pierre Viriot
Commercial Counselor
French Embassy

Eduardo Bradley
Economic Counselor
Argentine Embassy

India

Chairman: Jacques Carluy
Agricultural Attache
Embassy of France

Members: Adolfo J. de Uguiza
Charge d'Affaires
Argentina

F. R. Gullide
Commercial Counselor and
Senior Trade Commissioner
High Commission of Australia

C. R. Eskildsen
Agricultural Attache
Embassy of the United States of America

B. A. Macdonald
Commercial Counselor
High Commission of Canada

K. A. Bennet
Deputy Regional Representative
Food and Agriculture Organization

Indonesia

Chairman: Jean Fevrier
Commercial Counselor
Embassy of France

Members: Carl O. Winberg
Agricultural Attache
Embassy of the United States of America

Milton B. Blackwood
Commercial Secretary
Embassy of Canada

Mervyn Knowles
Trade Commissioner
Embassy of Australia

Peter Horne
Assistant Trade Commissioner
Embassy of Australia

Julio Passeron
Counselor
Embassy of the Republic of Argentina

J. J. G. Tauber
FAO Representative to Indonesia
Chief FAO Technical Assistance Mission

K. Gopalan
Marketing Adviser
Food and Agriculture Organization

APPENDIX V

ITINERARY

	<u>February</u>	<u>Japan</u>
Monday	1	Mission assembled in Tokyo.
Tuesday	2	Meeting with Local Committee. Visit to noodle promotion demonstration at Yashabaki store. Australian Trade Commissioner residence: Reception by Local Committee to introduce Mission to officials and Embassy representatives.
Wednesday	3	Calls on: Ministry of Agriculture and Forestry Ministry of Health and Welfare Ministry of Education
Thursday	4	Meeting with Ministry of Education and School Lunch Association. Visit to school to observe school lunch program in operation.
Friday	5	Nagoya Visit to Biwagima Fruit and Vegetable Central Market, improved by use of aid funds. Inspection of Nagoya Municipal Slaughter House, also improved by aid funds. Visit to Shikishima Bakery Company. Tour of Aichi Irrigation Project. (Discussion with officers of project; inspection of Fugi Tunnel; visit to Open Canal and Malbara Siphon).
Saturday	6	Osaka Mission meeting. Visit to bakery machinery plant (Fujisawa Manufacturing Company). Inspection of bakery shops. Dinner by President, Japanese Institute of Bakery.

	<u>February</u>	
Sunday	7	Return to Nagoya via Kyoto.
Monday	8	Tour of rural areas near Nagoya.
		Visit to prefectural office.
		Observation of Japan Nutrition Association Kitchen Bus unit in operation.
		Return to Tokyo.
		Buffet dinner by Local Committee to enable Mission to meet representatives of commercial wheat and flour trade, importers, officials and Embassy representatives.
Tuesday	9	Inspection of Tsurumi Flour Mill.
		Visit to Toshiba Electric Factory to observe industrial feeding facilities.
		Visit to Nutrition Institute.
		Mission meeting.
		Dinner by Japan Milling Association.
Wednesday	10	Visit to Bakers Institute (Bakers training program) and National Food Life Improvement Association.
		Visit to noodle factory and to restaurant using buckwheat.
		Discussion with Nutrition Consultant, Ministry of Health and Welfare.
Thursday	11	Mission meeting.
Friday	12	Depart for Hong Kong.
Saturday	13	Hong Kong.
		Inspection of small noodle factory.

India

Sunday	14	Arrival at Calcutta.
Monday	15	Visit to Port area, godowns, and silo site.
		Visit to Britannia Biscuit Factory and Hooghly Flour Mills.

February

		Reception by American Counselor, to introduce Mission to government officials and trade representatives.
Tuesday	16	Discussions at Chetla Urban Health Center. Visit to Central Food Laboratory. Visit to Annapoorna Restaurant, inspection of low-cost meals using wheat. Inspection of the Hooghly River sedimentation control project, near Haldia. Discussions with Regional Director of Food, Eastern Region. Meeting with West Bengal Flour Millers Association. Dinner by Millers Association.
Wednesday	17	Conference with West Bengal State Government officials of Ministries of Food and Food Production. Visit to food market. Mission meeting. Arrive in New Delhi.
Thursday	18	Call on Secretary for Food and Agriculture. Meeting with Agricultural Marketing Adviser, Director of Storage and representative of Central Warehousing Cooperation. Meeting with Local Committee. Reception by Chairman, Indian Roller Flour Millers Federation.
Friday	19	Visit to Hapur storage depot and silo. Inspection of Hapur Market and underground storage. Meeting with Hapur Market Committee. Inspect manufacture of coarse sugar (jaggery). Mission meeting. Reception by Local Committee, to introduce Mission to government officials and trade representatives.

Saturday	<u>February</u> 20	<p>Mission meeting.</p> <p>Call on Minister for Food and Agriculture and Minister for Agriculture.</p> <p>Chapatti tasting at Central Inspection Laboratory.</p> <p>Departure for Agra.</p>
Sunday	21	<p>Meeting with Regional Food and State Government officials.</p> <p>Return to Delhi.</p>
Monday	22	<p>Discussion with Food Secretary, Planning Commission, Regional Director of Food, Northern Region, and officials of Food and Agriculture, Health and Labor Ministries.</p> <p>Meeting with Health and Agricultural Nutrition Advisers.</p> <p>Meeting with Economic and Statistical Adviser.</p> <p>Mission meeting.</p> <p>Dinner by Food Secretary.</p>
Tuesday	23	<p>Meeting regarding Colombo Plan aid to India.</p> <p>Further discussions with Food Secretary and other officials.</p> <p>Mission meeting.</p> <p>Visit to World Agricultural Fair; introduction to Prime Minister Nehru.</p>
Wednesday	24	<p>Meeting with Punjab Development Officers.</p> <p>Inspection of Punjab Village Community Development project, Gurgaon district.</p> <p>Conference with Economic Adviser, Planning Commission.</p> <p>Call on Chairman, Planning Commission.</p> <p>Meeting with Indian Roller Flour Millers Federation.</p> <p>Dinner by Millers Federation.</p>

Thursday	<u>February</u> 25	Arrive at Bombay. Visit to Port area and General Motors Godown.
Friday	26	Conference with Regional Director of Food, Western Region. Discussions with officials of Bombay State Government. Visit to Flour Mills. Departure for Aurangabad.
Saturday	27	Tour of rural areas in North Deccan. Meeting with Aurangabad Market Committee. Inspection of unimproved regulated market.
Sunday	28	Return to Bombay. Meeting with Local Committee.
Monday	29	Inspection of Arey Milk Colony, Bombay. Tour of and luncheon at College of Catering and Institutional Management. Discussion with Executive Director, Reserve Bank of India. Discussion with Nutrition Department, Haffkine Institute. Discussion with Department of Chemical Technology, University of Bombay. Discussion on nutritional problems of University Women's Clinic. Visit to Dr. Wroyter's Chocolate and Canning Plant. Dinner by Regional Director Food.

GROUP I

Tuesday	<u>March</u> 1	Arrive at Cochin. Meeting with Regional Director of Food, Southern Region.
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March

		Visit to port and storage area.
		Mission meeting.
Wednesday	2	Tour of rural areas in Kerala State.
		Arrive at Trivandrum.
Thursday	3	Discussion with research men regarding nutritional problems in South India and Tapioca-Macaroni promotion project.
		Conference with Kerala State Government officials on agricultural and economic development.
		Visit to Home Industries Institute.
Friday	4	Arrive at Coimbatore.
		Drive through Nilgiri Hills to Ootacamund.
Saturday	5	Visit to tea plantation and to national park.
		Drive to Mysore.

GROUP II

Tuesday	1	Travel from Bombay to Hyderabad.
Wednesday	2	Discussion with Deputy Director and staff of Nutrition Research Laboratory, Indian Council of Medical Research.
		Mission meeting.
Thursday	3	Visit to rural area surrounding Hyderabad.
		Travel to Mysore via Bangalore.
Friday	4	Visit to Central Food Technological Research Institute; discussions with Deputy Director and various section directors.
Saturday	5	Visit to rural areas south of Mysore.

Sunday	6	Free
Monday	7	Mission meeting.
		Visit to Central Food Technological Research Institute.

March

Visit to rural areas southeast of Mysore.

Dinner by Director, C.F.T.R.I.

Tuesday 8

Drive to Bangalore.

Discussion with officials from Training Center for extension workers.

Inspection of Cooperative Center, Mandya.

Arrive at Madras.

Wednesday 9

Visit to Avadi Central Storage Depot.

Visit to Home Economics Department, University of Madras.

Visit to Old People's Home, Child and Maternal Health Clinic and discussions with medical faculty members of University.

Mission meeting.

Dinner by South India Flour Mills Association.

Thursday 10

Visit to School Lunch Food Preparation Center.

Breakfast with Speaker, Madras Legislative Assembly, Mayor of Madras and President of Madras School Lunch Association.

Conference with Regional Food Director, Southern Region.

Visit to school to inspect school lunch distribution.

Visit to port to view wheat handling.

Tour of South India Flour Mill.

Friday 11

Mission meeting.

Visit to industrial feeding and welfare establishment.

Attend meeting of Madras International Friendship Association.

Saturday 12

Visit to rural areas south of Madras.

Discussions with Regional Director of Food.

March

Study of various wheat and millet preparation used in South India.

Departure for Djakarta.

Indonesia

Sunday	13	Arrive at Djakarta. Meeting with Local Committee. Mission meeting.
Monday	14	Calls on: Minister for Distribution and Deputy First Minister; Ministry of Foreign Affairs; Secretary-General, Department of Agriculture; Deputy Secretary, Ministry of Trade. Mission meeting. Reception for Mission by Argentine Ambassador.
Tuesday	15	Consultation with Embassy officials.
Wednesday	16	Meeting with representatives of Ministries of Foreign Affairs, Agriculture, Trade, Industry, Food Board, Health and Finance. Chairman's luncheon for Local Committee. Reception by U.S. Charge d'Affaires.
Thursday	17	Visit to port facilities and godowns at Fandjong Priok (port for Djakarta) Interview with Director-General of Agriculture. Discussions at Nutrition Institute, Medical School, and with Regional F.A.O. Nutritionist. Dinner by Indonesian Government.
Friday	18	Visit Rice Milling and Research Institute, Krawang. Visit to Agricultural Research Institute, Bogor.
Saturday	19	Bandung—Call on Governor and agricultural officials.
Sunday	20)	Tour of rural areas of Java—rice cultivation and harvesting methods, rural living conditions.
Wednesday	23)	

Thursday	<u>March</u> 24	Surabaya—Visit to port area.
Friday	25	Arrive Den Passar—Call on provincial Governor. Meeting with officials for Agriculture and Industry. Tour rural area.
Saturday	26	Free
Sunday	27	Return to Djakarta, departure for Singapore and New Delhi.
Monday	28	In transit to India.
Tuesday	29	Arrive New Delhi.
Wednesday	30	Discussions with Embassy officials. Mission meeting.
Thursday	31)	Daily Mission meetings and discussions involved in drafting report.
Saturday	9 April)	
	<u>April</u>	
Wednesday	13	Visit to F.A.O. Headquarters in Rome.
Tuesday	19	Visit to F.A.O. Headquarters in Rome.
Thursday	21	Reassemble in Washington.
Friday	22)	Further Mission meetings; final consideration of report prior to transmittal to Chairman, Wheat Utilization Committee.
Sunday	1 May)	

